# Saint-Laurent Vision 2000

## PERFORMANCE FRAMEWORK FOR PHASE III OF THE ST. LAWRENCE VISION 2000 ACTION PLAN

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Saint-Laurent
Vision 2000

# PERFORMANCE FRAMEWORK FOR PHASE III OF THE ST. LAWRENCE VISION 2000 ACTION PLAN

## Volume I

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# Table of Contents

Acknowledgements ____ i

1. INTRODUCTION ____ 1

1.1 Phases I to III of St. Lawrence Action Plan ____ 1

1.2 Why implement a performance framework for SLV 2000? ____ 1

1.3 Purpose and clients of the SLV 2000 performance framework ____ 2

1.4 Work team ____ 3

2. THEORETICAL MODEL FOR MEASURING PERFORMANCE AND ITS COMPONENTS ____ 3

2.1 Logic model ____ 3

2.2 Key elements and performance indicators ____ 4

2.3 Measurement strategies ____ 4

2.4 Complementary management tools ____ 4

3. FROM THEORY TO PRACTICE: WORKSHOPS ____ 10

4. PERFORMANCE FRAMEWORK DATA ____ 10

4.1 Performance indicators ____ 10

4.2 Categories of performance indicators ____ 19

5. IMPLEMENTATION OF THE PERFORMANCE FRAMEWORK ____ 27

5.1 Collection of information pertaining to performance indicators ____ 27

5.2 Logic model database ____ 27

6. PHASE III EVALUATION ISSUES ____ 27

7. RECOMMENDATIONS ____ 28

7.1 Indicators ____ 28

7.2 Recommendations of the Advisory Committee ____ 29

7.3 Implementation ____ 29

8. CONCLUSION ____ 29

BIBLIOGRAPHY ____ 31

Appendix I : List of participants for the fourteen workshops to develop the performance framework ____ 32

Appendix II : Dates when the fourteen workshops to develop the performance framework were held ____ 35

Appendix III : Frequency for updating the performance framework indicators ____ 36

# 1. INTRODUCTION

## 1.1 Phases I to III of St. Lawrence Action Plan

The first five-year Canada-Quebec agreement for the protection, conservation and restoration of the St. Lawrence ecosystem was signed in 1988. At that time, the St. Lawrence Action Plan targeted four specific areas: protection of the environment, which was focused on reducing industrial toxic releases, restoration of disturbed or contaminated areas, conservation of biodiversity and the state of the environment (1).

A second agreement, called St. Lawrence Vision 2000 (SLV 2000), was implemented in 1993 and ended in March 1998. In an effort to ensure continuity, the objectives of the protection and biodiversity components were pursued. New components were added, such as human health, decision support, which focussed primarily on the acquisition of scientific knowledge, community involvement with the introduction of the Priority Intervention Zone (ZIP) program and agricultural remediation (2).

In view of the success of the two previous agreements, the Canada and Quebec governments signed Phase III of SLV 2000 on June 8, 1998, with the objective of pursuing the joint efforts focussed on the St. Lawrence River (3). The mandate of Phase III is to «promote access to and restore previous uses of the St. Lawrence River with a view to achieving sustainable development» (3) (4). The three main objectives are: «to protect the health of the St. Lawrence ecosystem; to protect human health; and to promote the involvement of riverside communities» (3) (4). Under Phase III, a component focussing on navigation was added to the biodiversity, community involvement, agriculture, human health and industrial and urban components. The number of government partners in the St. Lawrence Action Plan has increased from five under Phase I to 13 under Phase III, in addition to non-governmental organizations, such as *Stratégies Saint-Laurent*, the ZIP committees and the Advisory Committee. The Canada and Quebec governments plan to invest $239 M over five years, distributed amongst over 30 results to be achieved (3) (4). The population of Quebec is the key client targeted by the many impacts and outcomes of the action plan.

## 1.2 Why implement a performance framework for SLV 2000?

During Phase II of SLV 2000, the authors of two reports, *Revue de Saint-Laurent Vision 2000* (5) and *Étude économique du programme SLV 2000: un exemple concret de développement durable* (6) recommended that a program such as SLV 2000 should include a performance framework in order to establish the linkages between the objectives and the results, clients and resources used. A performance framework would increase the understanding of the links between the mission, objectives, and environmental problems addressed under SLV 2000 and would make it possible to measure the short- and long-term impacts on target clients. The performance framework should include indicators of the environmental and socioeconomic benefits of the action taken.

## 1.3 Purpose and clients of the SLV 2000 performance framework

The purpose of the performance framework is to provide SLV 2000 with a management and decision-making tool for strategic planning and program review. It is designed to bring together the various elements of the action plan into a cohesive whole. It is useful for selecting realistic targets for the achievement of results, and for evaluating and identifying avenues of improvement that promote the desired performance. It should play an important role in the review of SLV 2000, which will be carried out jointly by the Canada and Quebec governments upon its completion in 2003. It may also be possible to use elements of the performance framework in the midterm review of the action plan, i.e., in 2000-2001, to determine whether the resources planned and used in each component are sufficient to achieve the results.

The performance framework is intended for the evaluators and managers at various levels involved in SLV 2000. It can be used by the co-chairs of the coordinating committees (Figure 1) for planning purposes and for more effectively analyzing the impact of their work on their clients, by managers of the Agreement Management Committee (AMC) and by departmental decision-makers, for making informed decisions on the St. Lawrence ecosystem.

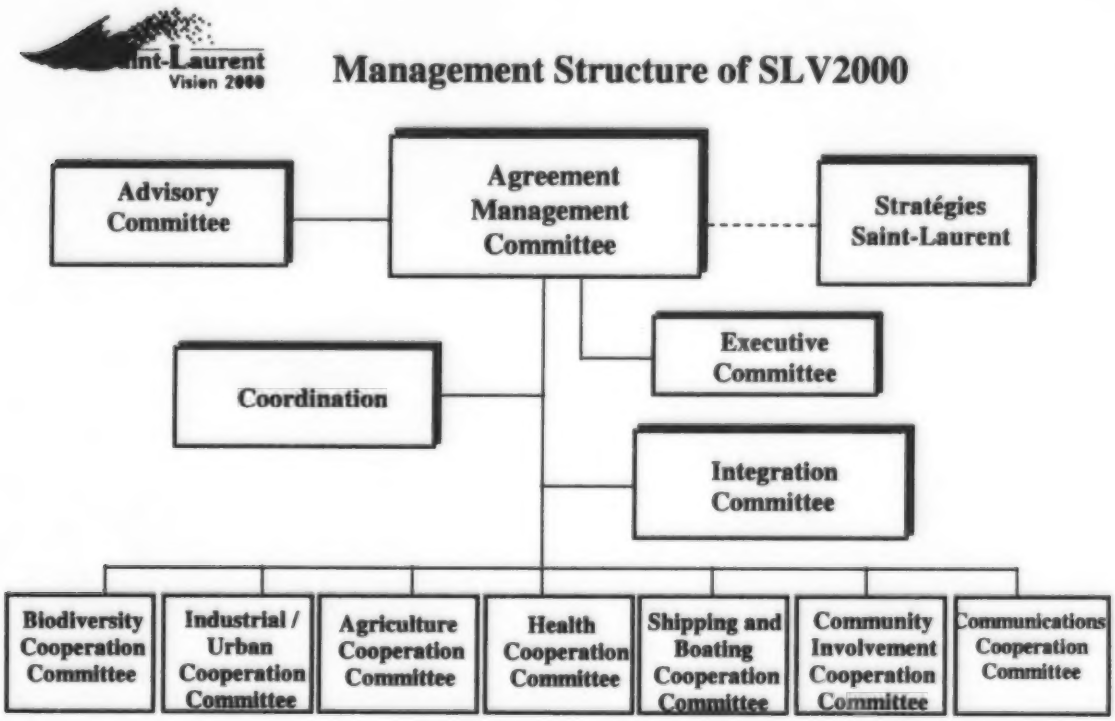


Figure 1: Organization chart of the management structure of Phase III

### 1.4 Work team

A Canada-Quebec team of evaluators was established in the summer of 1998 to develop the performance framework. The team consisted of Sylvie Petitclerc, of the Institutional Affairs Branch of the Quebec Environment Department, and François Boulanger, of the Corporate Affairs Branch of Environment Canada. They developed the work method and presided over all meetings with the coordinating committees to develop the first blueprint of the performance framework.

The two analysts of the SLV 2000 Coordination Office, Josée De Guise and Marc Crispin, and a student trainee, Payse Mailhot, also took part in the various steps involved in developing the performance framework. The analysts of the Coordination Office completed the final version of the performance framework with the cooperation of the coordinating committees.

## 2. THEORETICAL MODEL FOR MEASURING PERFORMANCE AND ITS COMPONENTS

Results-based performance measurement has become increasingly popular in governments and large companies. This interest certainly stems from the spending cuts of the late 1980s and taxpayers' desire to know what has been achieved through government programs with tax dollars (7). Managers also want to be able to demonstrate the value of the action taken.

Experts agree that strategic decisions and communications that are the most effective and have the greatest public impact require measurements of not only financial performance but also of the benefits of a program (7). The performance framework provides information on activities, outcomes and outputs, i.e., elements of internal management. It also provides information on the long-term impacts and achievements that benefit the public. This aspect represents an important external dimension for departments since it makes it possible to establish clear linkages between the results, internal management and mission as well as the roles and responsibilities towards the public.

The components of the performance framework are logic models, key elements, performance indicators and measurement strategies.

### 2.1 Logic model

The *logic model* (Table 1) presents statements describing the logic of the activities implemented to achieve the results of SLV 2000. It is the structured representation of the purpose of and rationale for the activities of SLV 2000 within the framework of the results of the Agreement. In concrete terms, the logic model represents the linkages between the activities, outputs, outcomes and clients, which had not been made until now under the St. Lawrence Action Plan.

The logic model comprises several statements on, among other things, the *activities* related to the results of SLV 2000 and the *outputs*, which are defined as the goods and services generated by the activities in order to achieve intermediate and ultimate outcomes.

The *intermediate outcomes* are related to the activities and are generated during the period of the SLV2000 action plan and for a short subsequent period (1 to 5 years). They are largely under the control of the coordinating committees.

The *ultimate outcomes* are related to the mission and main objectives of the action plan and are generated over the longer term, i.e., 5 to 20 years. While the activities of the coordinating committees contribute to them, they are also affected by other actors.

The logic model also illustrates the *clients* targeted by the results of the Agreement, the *partners* that contribute to the activities, the *users* of the outputs and the *beneficiaries* of the results.

### 2.2 Key elements and performance indicators

A certain number of the intermediate and ultimate outcomes set out in the logic model are selected by the coordinating committees to be measured in the performance framework. They are referred to as the *key elements* and are associated with one or more qualitative or quantitative *performance indicators* (Table 2). The most relevant indicators are selected using an evaluation grid (Table 3).

### 2.3 Measurement strategies

A *measurement strategy* is developed for each indicator selected. It sets out the unit of measure, the target sought for the indicator, the source of information for describing it, the data collection method, the updating frequency and the person responsible (Table 4).

### 2.4 Complementary management tools

Management tools designed to complement the performance framework were developed to obtain as complete a picture as possible of the status of the results and their impact on the St. Lawrence ecosystem throughout Phase III. An internet based management information system was implemented to track the status of the thirty-five Agreement results and the budgets allocated to them. A joint work team is working on developing and implementing a monitoring network to follow the state of the St. Lawrence ecosystem in order to determine whether there has been any improvement. Ecosystem monitoring is based on the updating of environmental indicators which reflect the condition of the St. Lawrence (8).

It is important to specify that these three management tools, i.e., the performance framework, the management information system and the state-of-the-ecosystem monitoring network are dynamic and evolving tools that can be modified and improved to address new needs.

## Table 1: Excerpt from the logic model of the Industrial and Urban component

**Mission:** To promote access to and restore former uses of the St. Lawrence River with a view to achieving of sustainable development

**Main objectives:** To protect the health of the St. Lawrence ecosystem
To protect human health
To promote the involvement of riverside communities

| **Activities** (Joint implementation of various measurable, tangible tasks aimed at achieving a specific objective) How? | **Outputs** (Goods and services generated by the activities in order to produce intermediate and ultimate outcomes) How? | **Reach : clients/Partners/ Beneficiaries /Users** (C: targeted by results, P: contribute to the action plan, U: use the products, B: affected by the results) Who? | **Intermediate outcomes** (attributable to the activities of the Action Plan) What? What do we want? (the numbers at the end of the statement correspond to the related activities) | **Ultimate outcomes** (related to the mission and main objectives) Why? (the numbers at the end of the statement correspond to the related activities) |
|---|---|---|---|---|
| **INDUSTRIAL AND URBAN** | | | | |
| 1. Find and process information on three industrial sectors (metallurgy, metal and chemical) in order to prioritize action on 18 priority toxic substances. | · databank (georeferenced electronic map, map of watershed)<br>· list of companies (target clients)<br>· scientific, technical analyses<br>· reports<br>· selection criteria<br>· geographic, economic and commercial analysis | C: industrial coordinating committee,<br>P: MEF, EC, MIC, IC, CED, CSST, CRIQ, industry associations<br>U: EC, MEF, entrepreneurs<br>B: industry associations, businesses | A. Inform and increase the awareness of entrepreneurs of the benefits of integrating pollution prevention into their operations 1, 3, 4, 6 | I. Reduce the use, production and release of toxics (water, air, waste) into the St. Lawrence 3, 4 |
| 2. Develop environmental management tools for the three industrial sectors. | · inventory of available prevention tools<br>· databank<br>· new, adapted prevention tools<br>· kit of prevention tools | C: SMEs, industry associations,<br>P: EC, EC - Ottawa, industry associations, MEF, C2P2<br>U: SMEs, consultant, EC, MEF<br>B: entrepreneurs | B. Demonstrate and promote the fact that toxics reduction through prevention can be profitable for businesses ($, image, opening up of new markets, insurance, etc.) 2, 3, 4, 6 | II. Encourage entrepreneurs to integrate environmental considerations into their business management practices 2, 3, 4, 6 |
| 3. Introduce pollution prevention projects into 60 plants. | · strategy for approaching companies<br>· overview of prevention projects<br>· success stories<br>· technical, environmental, economic indicators | C: SMEs,<br>P: EC, MEF, SMEs, CED, IRAP<br>U: industrial sectors involved and other sectors<br>B: industrial sectors involved and other sectors | C. **Demonstrate that the pollution prevention approach is effective in reducing toxics 1, 2, 3, 4, 6** | III. Reduce 18 priority toxic substances in the three sectors: metallurgy, metal and chemical 3, 4 |
| 4. Evaluate the economic and environmental gains of the pollution prevention projects. | · technical, environmental and economic indicators<br>· project cost-benefit studies<br>· reports<br>· comparative study of prevention and clean-up costs | | D. Make new pollution prevention-oriented tools and technologies available 2, 3, 4, 6 | IV. Generate indirect environmental, economic and social impacts (quality of life) 3, 4 |

| **Activities**<br>(Joint implementation of various measurable, tangible tasks aimed at achieving a specific objective)<br>How? | **Outputs**<br>(Goods and services generated by the activities in order to produce intermediate and ultimate outcomes)<br>How? | **Reach : clients/Partners/ Beneficiaries /Users**<br>(C: targeted by results,<br>P: contribute to the action plan,<br>U: use the products,<br>B: affected by the results)<br>Who? | **Intermediate outcomes**<br>(attributable to the activities of the Action Plan)<br>What? What do we want?<br>(the numbers at the end of the statement correspond to the related activities) | **Ultimate outcomes**<br>(related to the mission and main objectives)<br>Why?<br>(the numbers at the end of the statement correspond to the related activities) |
|---|---|---|---|---|
| 5. Provide technical expertise and financial support to promote the development, adaptation and commercialization of new pollution prevention technology or equipment (the other components of SLV 2000 will also receive this expertise and support) | · cost-benefit and technological study<br>· report<br>· overview<br>· technology development projects<br>· list of projects and companies with a high potential for technology development<br>· list of programs available for helping companies | P: EC, CED<br><br>(To be completed) | E. **Improve the environmental performance of the targeted SMEs 2, 3, 4** | V. Contribute to the competitiveness and profitability of companies in its existing markets and in new markets 3, 4 |
| 6. Develop awareness, information and training activities<br>· to recruit industrial plants | · advertising brochure<br>· membership form<br>· information/awareness kits<br>· presentations in conjunction with regional players<br>· public relations | C: industry associations, SMEs<br>P: EC, MEF, industry associations, regional economic organizations, ZIP Committee, CEGEP, MUC<br>U: EC, MEF, SMEs, industry associations<br>B: SMEs, associations, EC (regions), MEF (regional branches) | F. Reduce the use and production of toxic substances and toxic releases (water, air, waste) by the targeted companies 3 | |
| · to target 60 plants | · training: workshop by sector and region<br>· participant's manual<br>· performance framework (trainer's manual, notes)<br>· Internet site | | | |
| · to extend in the three sectors | · Internet site<br>· brochures<br>· tool kits<br>· booth<br>· presentations and communications | | | |

## Table 2: Excerpt of the key elements and performance indicators from the Industrial and Urban component

| Key Elements | Indicators / selected for the performance framework (boldface) |
|---|---|
| **INDUSTRIAL AND URBAN** | |
| 1. Demonstrate that the pollution prevention approach is effective in reducing toxics (implement pollution prevention projects at 60 plants) | 1. **Number of projects carried out**<br>2. **Rate of toxics reduction per project and type of activity**<br>3. Time required per project<br>4. Total cost per project |
| 2. Improve the environmental performance of the targeted SMEs | 5. **Level of achievement of environmental results other than the reduction of the 18 toxic substances (EMS, technical) per project and type of activity**<br>6. Level of compliance of the company with the authorization certificates issued<br>7. Number of firms with an environmental management system (EMS)<br>8. Level of success in implementing the specific elements of an EMS<br>9. Changes in the quantity of toxic inputs for a project<br>10. Rates of reduction of effluent releases |

## Table 3: Evaluation Grid for the Selection of Indicators

| ***Indicate, on a scale of 1 to 5, whether you agree with the following questions on the selected indicators.*** | ***Indicator***<br>***1 = strongly disagree***<br>***2 = disagree***<br>***3 = no opinion***<br>***4 = agree***<br>***5 = strongly agree*** |
|---|---|
| **MEANING** | |
| **Comprehensible** | |
| 1. Is it clear and easily definable? | 1 2 3 4 5 |
| 2. Can it be easily explained? | 1 2 3 4 5 |
| 3. Is it measurable (concrete)? | 1 2 3 4 5 |
| 4. Is it clear with respect to direction? | 1 2 3 4 5 |
| **Pertinent** | |
| 1. Is it related to the results? | 1 2 3 4 5 |
| 2. Is it representative and useful to users? | 1 2 3 4 5 |
| 3. Is it related to the activities? | 1 2 3 4 5 |
| **Comparable** | |
| 1. Can comparisons over time be made with other organizations, activities or standards? | 1 2 3 4 5 |
| **Reliable** | |
| 1. Does it effectively represent what is being measured (unbiased)? | 1 2 3 4 5 |
| 2. Can the data be verified? | 1 2 3 4 5 |
| 3. Are the data of high quality (free of error)? | 1 2 3 4 5 |
| 4. Can the data be manipulated? | 1 2 3 4 5 |
| 5. Does it complement other indicators? | 1 2 3 4 5 |
| **Practical** | |
| 1. Is it financially feasible? | 1 2 3 4 5 |
| 2. Is it possible to obtain timely data? | 1 2 3 4 5 |
| **HIERARCHICAL LEVELS** | |
| **This indicator will be useful to the managers of the** | |
| 1. Agreement Management Committee | 1 2 3 4 5 |
| 2. Executive Committee | 1 2 3 4 5 |
| 3. Coordinating / Communications committees | 1 2 3 4 5 |
| 4. Coordination Office | 1 2 3 4 5 |

## Table 4: Excerpt from the Measurement Strategy for the Selected Indicators of the Industrial and Urban Component

| Key Elements Selected | Performance Indicators | Targeted Performance Objective | Source of Information and Unit of Measurement | Data Collection Method | Responsibility for Data Collection | Frequency of collection | Measures to be taken to obtain the indicator |
|---|---|---|---|---|---|---|---|
| **INDUSTRIEL AND URBAIN** | | | | | | | |
| 1. Demonstrate that the pollution prevention approach is effective in reducing toxics (Implement pollution prevention projects at 60 plants) | 1. Number of projects carried out | 60 projects | · final report<br>· unit of measure: number | compilation of documents | coordinating committee | Twice a year starting in 2001 | |
| | 2. Rate of toxics reduction per project and type of activity | Toxics reduction | · work specifications<br>· final report<br>· unit of measure: % reduction in total toxics | 1. characterization<br>2. mass balance<br>3. emission factor<br>4. all other recognized methods | coordinating committee | At the end of each project | · collection methods to be developed and specified |
| 2. Improve the environmental performance of the targeted SMEs | 3. Level of achievement of environmental results other than the reduction of the 18 toxic substances (EMS, technical) per project and type of activity | 100% of results achieved | · final report<br>· unit of measure: % (qualitative) | compilation of documents | coordinating committee | Annual | · collection methods to be specified |

## 3. FROM THEORY TO PRACTICE: WORKSHOPS

The products of the performance framework were developed through meetings attended by over seventy individuals (Appendix I) who were selected for their knowledge of the operational activities and broad view of the purpose of these activities in their component and in the action plan. It has been shown that the choice of participants is critical to the success of the exercise (7). Preparatory meetings for each of the coordinating committees were held between October 1998 and January 1999. The purpose of these meetings, which brought together evaluators, an analyst from the Coordination Office and the co-chairs of the coordinating committee, was to provide information on the approach to be adopted to develop the performance framework and to ask the co-chairs to identify the workshop participants.

Given the large number of results targeted by certain components, such as the Biodiversity, Community Involvement and Industrial and Urban components, they were divided into subcomponents for the purposes of the workshops. A total of 14 workshops, each generally two days long, were held between December 1998 and March 1999 (Appendix II). These intensive working sessions comprised five steps: development of the logic model; determination of key elements (measured intermediate and ultimate outcomes and impacts); identification of the associated performance indicators; selection of the most relevant indicators using an evaluation grid and development of a measurement strategy for the indicators selected.

The products from the workshops were developed through consensus among the participants. They were subsequently validated by each of the coordinating committees, which lead to the elimination of indicators considered less relevant or difficult to document.

## 4. PERFORMANCE FRAMEWORK DATA

The second volume of the performance framework (9) presents all data on the various products for each coordinating committee. This section of the report presents only a compilation of the performance indicators that will be measured by the coordinating committees.

### 4.1 Performance Indicators

A total of 103 performance indicators were selected by the coordinating committees to document the results of Phase III. The number of indicators selected by each committee is as follows: Community Involvement, 37; Agriculture, 11; Biodiversity, 13; Industrial and Urban, 8; Navigation, 12; Health, 14; and Communications, 8. The performance indicators associated with the results of Phase III are presented in Table 5. In addition to the 35 results set out in the Agreement (3), two were added for institutional communications and are included in Table 5. The target of each indicator is specified in the measurement strategies presented in the second volume of the performance framework.

## Table 5: Agreement Results and Performance Indicators

### COMMUNITY INVOLVEMENT

| RESULTS | INDICATORS<br>*The text in boldface corresponds to the indicators selected specifically for the Agreement Management Committee (AMC)* |
|---|---|
| Help build consensus in 14 riverside communities (ZIP) on local environmental issues under the coordination of *Stratégies Saint-Laurent* | 1. **Number of partners per sector involved in the implementation of ERAP projects**<br>2. Number of partners involved in activities other than the implementation of ERAP projects<br>3. Number of hectares of protected, restored, conserved or enhanced habitat<br>4. **Number of ERAP projects completed or under way in the following categories: protection, conservation, restoration and enhancement of habitats and biological resources, recreation/tourism and protection of human health**<br>5. Number of plants planted<br>6. Number of kilometres of shoreline restored (cleaned up, stabilized, renaturalized)<br>7. Amount of waste collected<br>8. **Number of hours of volunteer work provided by local partners to the activities of ZIP committees**<br>9. **Resources (financial, human and physical) invested by the other local partners to implement ERAPs and other activities**<br>10. Number of conferences, consultations and information and awareness activities generated by the ZIP committees<br>11. Number of harmonization activities (meetings of Stratégies Saint-Laurent and ZIP boards, development of management tools, etc.) |
| Support implementation of 150 community projects arising from ERAPs and the communities, giving priority to access to the St. Lawrence and its use | 12. **% of the budget of the Community Interaction Program (CIP) allocated to ERAP projects**<br>13. **Number of proposals submitted to CIP addressing each component of SLV 2000**<br>14. Number of community groups participating in CIP<br>15. Number of person/days of volunteer work allocated to CIP<br>16. Number of projects per ZIP (geographical aspect)<br>17. **Number of CIP projects in the following categories: physical works, awareness,** |

| RESULTS | INDICATORS<br>*The text in boldface corresponds to the indicators selected specifically for the Agreement Management Committee (AMC)* |
|---|---|
| | **acquisition and stewardship, enhancement and accessibility, studies (generation of knowledge, planning, feasibility)**<br>18. % of funding per type of partner<br>19. Distribution (%) per type of partner involved in CIP<br>**20. Multiplier effect of CIP: investments ($) by type of partner; volunteer work in $ and person/days; loans, donations and services in $**<br>21. Number of kilometres of shoreline restored (cleaned up, stabilized, renaturalized)<br>22. Amount of waste collected<br>23. Number of plants planted<br>24. Number of accesses to the St. Lawrence (new and improved)<br>25. Hectares of restored, conserved or protected habitat |
| Provide scientific and technical support for ZIP committees | 26. Number of government partners participating in SLV 2000 (Diversity) involved with SSL and ZIP committees<br>**27. Resources allocated by each government partner participating in SLV 2000**<br>28. Level of satisfaction of SSL and ZIP committees as a function of the offer made by government partners<br>**29. Client satisfaction, i.e., SSL and ZIP committees, concerning the transfer of information and expertise by the government partners participating in SLV 2000**<br>30. % of ERAP projects which are technically eligible for funding under CIP<br>31. Total number of ERAP projects receiving funding under CIP<br>32. Total number of ERAP projects that have been implemented and that have received scientific and/or technical support |
| Disseminate the best and the latest information on the St. Lawrence via the Biosphere's EcoWatch Network a centre of expertise and scientific popularization on the St. Lawrence environment | **33. Number of people active in the Biosphere's Ecowatch Network in the St. Lawrence basin (participants)**<br>34. Number of requests to participate in the Biosphere's Ecowatch Network in the St. Lawrence basin (participants)<br>35. Number of projects per theme<br>**36. Number of hours spent on the Biosphere's Ecowatch Network projects by the participants, including volunteer work**<br>37. % retention of active members |

## AGRICULTURE

| RESULTS | INDICATORS<br>*The text in boldface corresponds to the indicators selected specifically for the Agreement Management Committee (AMC)* |
|---|---|
| Reduce by 50% the use of pesticides and obtain 70% of the area under integrated control measures by 2003 and follow-up to verify the achievement of results | 1. **Amount of pesticides in kg of active ingredients per hectare used in targeted crops**<br>2. **Area in hectares under integrated control measures relative to the total area of targeted crops**<br>3. Frequency of exceedance of criteria for the protection of aquatic life (for surface water)<br>4. Frequency of pesticide detection (in groundwater)<br>5. Frequency of exceedance of drinking water criteria |
| Have 175 agricultural producers in the Boyer River basin join agro-environmental clubs in order to re-establish smelt (modified) | 6. Number of producers who are members of agro-environmental clubs for the Boyer River<br>7. Number of watertight storage structures (livestock manure)<br>8. Number of farms with agro-environmental fertilization plans<br>9. Frequency of exceedance of the criteria for the protection of aquatic life (for surface water) |
| Validate an indicator on the risks of surface water contamination by phosphorus | |
| Carry out control and inspection in the area of agricultural cleaning up and make agricultural industries conform to the *Règlement sur la réduction de la pollution d'origine agricole dans des tributaires du Saint-Laurent* | 10. Number of farms in compliance with the provisions respecting watertight storage of livestock manure<br>11. Number of inspection visits |

## BIODIVERSITY

| RESULTS | INDICATORS<br>*The text in boldface corresponds to the indicators selected specifically for the Agreement Management Committee (AMC)* |
|---|---|
| Contribute to the safeguard of 35 threatened plant and animal species | **1. Number of species whose populations have stabilized or are on the rise**<br>**2. Number of species whose occupied sites have been maintained or increased**<br>**3. Number of new species recovery plans initiated or completed**<br>**4. Number of species designated by the Quebec government** |
| Control the introduction of exotic species and limit the impacts of invasive species | |
| Protect 120,000 hectares of natural habitats, including 1,660 hectares to be acquired | **5. Number of hectares protected**<br>**6. Area with protection status (included in the 120,000 hectares)** |
| Develop and implement 7 management and conservation plans for sensitive habitats | **7. Status of habitat management plans that have been implemented** |
| Educate the public and raise their awareness of the ecological value of the St. Lawrence | |
| Promote public access to the St. Lawrence by developing structures and sites with ecological potential | **8. % progress on the Lachine Canal project**<br>9. Number of accesses to the St. Lawrence River created or restored |
| Assess impacts of water-level fluctuations due to climate change and streamflow regulation on the St. Lawrence ecosystem and its uses | **10. Extent and variety of use of water level management models and tools** |
| Provide forecasts and analyses of the state of the St. Lawrence by implementing an integrated monitoring system | **11. Level of implementation of the reference framework (operationalization of existing indicators and evaluation of the feasibility of the others)**<br>**12. Level of commitment of partners to the St. Lawrence monitoring network**<br>**13. Implementation of a permanent process to ensure the sustainability of a St. Lawrence monitoring system** |

## INDUSTRIAL AND URBAN

| RESULTS | INDICATORS<br>*The text in boldface corresponds to the indicators selected specifically for the Agreement Management Committee (AMC)* |
|---|---|
| Find and process information on three industrial sectors (metallurgy, metal and chemical) in order to prioritize action on 18 priority toxic substances (modified) | |
| Develop environmental management tools for the metallurgy, metal and chemical industries in order to prioritize action on the 18 priority toxic substances (modified) | |
| Introduce pollution prevention projects into 60 plants (20 per sector)<br><br>Provide technical expertise and financial support to promote the development, adaptation and commercialization of new pollution prevention technology or equipment | **1. Rate of toxics reduction per project and type of activity**<br>2. Number of pollution prevention projects carried out<br>**3. Level of achievement of the environmental results other than the reduction of the 18 toxic substances (EMS, technical) per project and type of activity** |
| Evaluate the economic and environmental gains of the pollution prevention projects | |
| Proceed to the control and inspection in the industrial sector | |
| Measure toxicity of effluents from three major metropolitan areas (MUC, QUC, OUC) and nine other municipalities in order to support corrective measures | **4. Achievement of all results for measuring the toxicity of targeted municipal effluent**<br>5. Achievement of high quality results involving<br>· results that passed quality control tests<br>· characterization carried out in a timely manner (taking account of influencing factors)<br>· normal operation of treatment plants |
| Complete the reduction of toxic liquid effluents from 14 Phase II priority plants (90% or optimal reduction to achieve virtual elimination) - modified | 6. Number of the 14 industrial plants that completed the program<br>**7. CHIMIOTOX for each industrial plant targeted under Phase II in group 1** |
| Introduce an environmental awards program for the industrial plants targeted under Phases I and II | **8. Number of certificates issued compared to the number of certificates that can be issued** |

## SHIPPING AND BOATING

| RESULTS | INDICATORS<br>*The text in boldface corresponds to the indicators selected specifically for the Agreement Management Committee (AMC)* |
|---|---|
| Establish a mechanism for monitoring dredging activities on the St. Lawrence<br><br>Develop tools and guides to improve management of environmental risks and threats as part of an effort to ensure sustainable shipping on the St. Lawrence | **1. Implementation of environmental monitoring studies for dredging projects**<br><br>2. Stakeholders' level of knowledge on the government decision-making process regarding the management of dredging and sediments |
| Protect the banks of the St. Lawrence against the effects of erosion due to commercial shipping and pleasure boating | **3. Implementation of studies on the impacts of navigation on shoreline erosion**<br>**4. Behavioural changes vis-à-vis the speed of commercial ships**<br>**5. Changes in the practices of recreational boaters** |
| Introduce regulations or a code of good practice governing discharge of ballast water | |
| Develop and implement a strategy to ensure sustainable boating and shipping on the St. Lawrence in cooperation with the shipping industry, environmental interests, governments and the public | 6. Level of involvement per type of government and non-governmental representative in the development of the sustainable shipping strategy<br>7. Level of funding committed by partners to the sustainable shipping strategy<br>**8. Adoption of the sustainable shipping strategy tabled by the Shipping and Boating coordinating committee**<br>9. Level of participation in reflection and public debate on the use by each type of representative for each geographical area<br>10. Quality of the debate on the uses of the St. Lawrence River and projects related to navigation<br>11. Number and frequency of information transfers to the target clients of the Shipping and Boating component |
| Implement a management plan for contaminated sites that may present a risk for the ecosystem<br><br>Produce or update tools to improve sediment management practices | 12. Scientific consensus and level of information of industry, the public and local communities on the application of the criteria on sediment quality |

## HEALTH

| RESULTS | INDICATORS<br>*The text in boldface corresponds to the indicators selected specifically for the Agreement Management Committee (AMC)* |
|---|---|
| Reduce public exposure to recreational waters with micro-biological hazards | 1. Number of beaches used by the public at which water quality is evaluated<br>2. % of municipalities that monitor water quality at public beaches in their territory<br>3. % of municipalities who post adequate notices at beaches in their territory<br>4. Proportion of swimmers frequenting clean beaches, that have adequate posting and are suitable for swimming<br>5. Proportion of the riverside population that swims in the St. Lawrence River<br>**6. Swimmers attitude and knowledge of health issues** |
| Reduce public exposure to drinking where there is a risk of chemical and microbiological contamination | 7. Number of new priority chemical contaminants in drinking water subject to characterization to assess potential health risks<br>**8. Consumer attitudes regarding tap water from the St. Lawrence River** |
| Reduce public exposure to consumption of aquatic products where there is a risk of organic and inorganic contamination | **9. % of pregnant women whose level of PCB contamination is below the safety threshold in high-risk areas**<br>10. Heath care professionals' attitude towards and knowledge of health issues related to the consumption of aquatic products<br>11. Proportion of riparian land owners engaging in sport fishing in the St. Lawrence River<br>12. Proportion of fishermen who consume catches from the St. Lawrence River<br>**13. Consumers' attitude towards and knowledge of health issues related to the consumption of aquatic products**<br>**14. Number of aquatic product consumption practices subject to human health risk characterization** |

## COMMUNICATIONS

| RESULTS | INDICATORS<br>*The text in boldface corresponds to the indicators selected specifically for the Agreement Management Committee (AMC)* |
|---|---|
| Inform the public, media and target clients of the activities, programs, outcomes and achievements of the St. Lawrence Action Plan Vision 2000<br><br>Promote the harmonization of St. Lawrence Vision 2000 communications | **1. Number of times SLV 2000 is associated with the two governments (Canada, Quebec) compared to the total number of times it is mentioned**<br>2. Number of times departmental partners are mentioned in articles generated by the communications activities of SLV 2000 compared to the number of times they could be mentioned in all articles generated<br>**3. Number of references to the targeted strategic messages compared to the number of references in all articles generated by communications activities**<br>**4. Number of communications products per coordinating committee posted on the Internet compared to the total number of products developed and included in their communication plan**<br>**5. Number of articles published in «Le Fleuve» per area of activity**<br>**6. Public and community perception of all SLV 2000 activities**<br>**7. Level of public knowledge of the state of the St. Lawrence River**<br>**8. Uses and changes in perception of the St. Lawrence River** |

Eight of the 37 results do not have performance indicators. In some cases, coordinating committees considered some results to be less important in evaluating their component's performance. In other cases, the updating of indicators for these results would have been too complex or would have required a level of funding that is not currently available. It is anticipated that the coordinating committees should develop, by the end of the action plan, a qualitative measure or index for evaluating these results which do not have a performance indicator. In addition, managers have basic information on the status of all results in the management information system.

At the request of the Agreement Management Committee (AMC), 48 performance indicators were selected by the coordinating committees as being the most representative and most relevant to their component (see Table 6). These indicators should be more closely monitored by the AMC and could be used for various management purposes.

### 4.2 Categories of performance indicators

In order to gain a better representation of the various aspects of SLV 2000 covered by the performance indicators, they were divided into three categories: environmental indicators, indicators of intermediate outcomes and indicators of products and services (Table 7).

The *environmental indicators* measure the outcomes associated with the mission of SLV 2000, i.e., the progress made towards improving the state of the St. Lawrence ecosystem, human health and community involvement. They contribute to the measurement of the long-term outcomes (10-20 years). The environmental indicators of the performance framework are complemented by those used to monitor the state of the St. Lawrence ecosystem, which are developed and implemented by a team established specifically for this purpose.

The *indicators of intermediate results* measure the progress made in respect of the Agreement results and have a five-year horizon. The indicators are complemented, in respect of the budget associated with each result, by the information contained in the management information system.

The *indicators of products and services* cover the administrative and management aspects, such as the number of reports published or the number of projects or activities implemented in respect of the Agreement results. The latter, which are more specifically management indicators, are short term indicators, often even annual.

The use of the grid presented in Table 7 enables us to see that very few environmental indicators were retained by the coordinating committees. With respect to the intermediate indicators, i.e., those that are directly related to the achievement of the Agreement results, we see that only about 20 will be measured. Most of the indicators of the performance framework are in the products and services category. This likely reflects the fact that the government partners have more experience in identifying these management elements, which are related to the departments' annual planning exercises.

## Table 6: Selection of indicators of the performance framework for the Agreement Management Committee (AMC) corresponding to the text in boldface in Table 5

### Community Involvement

1. Number of partners per sector involved in the implementation of ERAP projects
2. Number of ERAP projects completed or under way in the following categories: protection, conservation, restoration and enhancement of habitats and biological resources, recreation/tourism and protection of human health
3. Number of hours of volunteer work provided by local partners to the activities of ZIP committees
4. Resources (financial, human and physical) invested by the other local partners to implement ERAPs and other activities
5. % of the budget of the Community Interaction Program (CIP) allocated to ERAP projects
6. Number of proposals submitted to CIP addressing each component of SLV 2000
7. Number of CIP projects in the following categories: physical works, awareness, acquisition and stewardship, enhancement and accessibility, studies (generation of knowledge, planning, feasibility)
8. Multiplier effect of CIP: investments ($) by type of partner; volunteer work in $ and person/days; loans, donations and services in $
9. Resources allocated by each government partner participating in SLV 2000
10. Client satisfaction, i.e., SSL and ZIP committees, with the transfer of information and expertise by the government partners participating in SLV 2000
11. Number of people active in the Biosphere's Ecowatch Network in the St. Lawrence basin (participants)
12. Number of hours spent on the Biosphere's Ecowatch Network projects by the participants, including volunteer work

### Agriculture

13. Amount of pesticides in kg of active ingredients per hectare used in targeted crops
14. Area in hectares under integrated control measures relative to the total area of targeted crops

### Biodiversity

15. Number of species whose populations have stabilized or are on the rise
16. Number of species whose occupied sites have been maintained or increased
17. Number of new species recovery plans initiated or completed
18. Number of species designated by the Quebec government
19. Number of hectares protected
20. Area with protection status (included in the 120,000 hectares)
21. Status of habitat management plans that have been implemented
22. % progress on the Lachine Canal project
23. Extent and variety of use of water level management models and tools
24. Level of implementation of the reference framework (operationalization of existing indicators and evaluation of the feasibility of the others)

25. Level of commitment of partners to the St. Lawrence monitoring network
26. Implementation of a permanent process to ensure the sustainability of a St. Lawrence monitoring system

### Industrial and Urban

27. Rate of toxics reduction per project and type of activity
28. Level of achievement of the environmental results other than the reduction of the 18 toxic substances (EMS, technical) per project and type of activity
29. Achievement of all results for measuring the toxicity of targeted municipal effluent
30. CHIMIOTOX for each industrial plant targeted under Phase II in group 1
31. Number of certificates issued compared to the number of certificates that can be issued

### Shipping and Boating

32. Implementation of environmental monitoring studies for dredging projects
33. Implementation of studies on the impacts of navigation on shoreline erosion
34. Behavioural changes vis-à-vis the speed of commercial ships (shoreline erosion)
35. Changes in the practices of recreational boaters (shoreline erosion)
36. Adoption of the sustainable shipping strategy tabled by the Shipping and Boating coordinating committee

### Health

37. Swimmers attitude and knowledge of health issues
38. Consumer attitudes regarding tap water from the St. Lawrence River
39. % of pregnant women whose level of PCB contamination is below the safety threshold in high-risk areas
40. Consumers' attitude towards and knowledge of health issues related to the consumption of aquatic products
41. Number of aquatic product consumption practices subject to human health risk characterization

### Communications

42. Number of times SLV 2000 is associated with the two governments (Canada, Quebec) compared to the total number of times it is mentioned
43. Number of references to the targeted strategic messages compared to the number of references in all articles generated by communications activities
44. Number of communications products per coordinating committee posted on the Internet compared to the total number of products developed and included in their communication plan
45. Number of articles published in «Le Fleuve» per area of activity
46. Public and community perception of all SLV 2000 activities
47. Level of public knowledge of the state of the St. Lawrence River
48. Uses and changes in perception of the St. Lawrence River

## Table 7: Categories of performance indicators

| SLV 2000 ACTION PLAN | ENVIRONEMENTAL INDICATORS[1] (10-20 year horizon) | INTERMEDIATE OUTCOME INDICATORS [2] (5-year horizon) | OUTPUT INDICATORS (PRODUCTS OR SERVICES) |
|---|---|---|---|
| **Community Involvement** | | • Number of partners per sector involved in the implementation of ERAP projects<br>• Number of partners involved in activities other than the implementation of ERAP projects<br>• Number of hours of volunteer work provided by local partners to the activities of ZIP committees<br>• Resources invested by the other local partners to implement ERAPs and other ZIP activities<br>• Number of CIP projects in the following categories: physical works, awareness, acquisition and stewardship, enhancement and accessibility, studies (generation of knowledge, planning, feasibility)<br>• Resources allocated by each government partner participating in SLV 2000 to support ZIP committees | • Number of hectares of protected, restored, conserved or enhanced habitat<br>• Number of ERAP projects completed or under way in the following categories: protection, conservation, restoration and enhancement of habitats and biological resources<br>• Number of plants planted<br>• Number of kilometers of shoreline restored<br>• Amount of waste collected<br>• Number of conferences, consultations and information and awareness activities generated by the ZIP committees<br>• Number of harmonization activities<br>• % of the budget of the Community Interaction Program (CIP) allocated to ERAP projects<br>• Number of proposals submitted to the Community Interaction Program addressing each component of SLV 2000<br>• Number of community groups participating in CIP<br>• Number of person/days of volunteer work allocated to CIP<br>• Number of projects per ZIP<br>• % of funding per type of partner<br>• Distribution (%) per type of partner involved in CIP<br>• Multiplier effect of CIP: investments ($) by type of partner; volunteer work in $ and person/days; loans, donations and services in $<br>• Number of accesses to the St. Lawrence (new and improved)<br>• Number of government partners participating in SLV 2000 (Diversity) involved with SSL and ZIP committees<br>• Level of satisfaction of SSL and ZIP committees as a function of the offer made by government partners<br>• Client satisfaction, i.e., SSL and ZIP committees, concerning the transfer of information and expertise by the government partners participating in SLV 2000 |

1- Indicators of long-term outcomes measuring progress towards environmental sustainability

2- Indicators that measure progress towards the achievement of anticipated targets - outcomes

| SLV 2000 ACTION PLAN | ENVIRONEMENTAL INDICATORS (10-20 year horizon) | INTERMEDIATE OUTCOME INDICATORS (5-year horizon) | OUTPUT INDICATORS (PRODUCTS OR SERVICES) |
|---|---|---|---|
| | | | • % of ERAP projects which are technically eligible for funding under CIP<br>• Total number of ERAP projects receiving funding under CIP<br>• Total number of ERAP projects that have been implemented and that have received scientific and/or technical support<br>• Number of people active in the Biosphere's Ecowatch Network in the St. Lawrence basin<br>• Number of requests to participate in the Biosphere's Ecowatch Network in the St. Lawrence basin<br>• Number of projects per theme<br>• Number of hours spent on the Biosphere's Ecowatch Network projects by the participants, including volunteer work<br>• % retention of active members in the Biosphere's Ecowatch Network |
| **Agriculture** | • Frequency of exceedance of criteria for the protection of aquatic life<br>• Frequency of pesticide detection (ground-water)<br>• Frequency of exceedance of drinking water criteria | • Amount of pesticides in kg of active ingredients per hectare used in targeted crops<br>• Area in hectares under integrated control measures relative to the total area of targeted crops<br>• Number of producers who are members of agro-environmental clubs for the Boyer River | • Number of watertight storage structures for livestock manure<br>• Number of farms with agro-environmental fertilization plans<br>• Number of farms in compliance with the provisions respecting watertight storage of livestock manure<br>• Number of inspection visits |
| **Biodiversity** | *Trends observed in respect of the 19 indicators of the State of the St. Lawrence monitoring committee* | • Number of species whose populations have stabilized or are on the rise<br>• Number of hectares protected | • Number of species whose occupied site have been maintained or increased<br>• Number of new species recovery plans initiated or completed<br>• Number of species designated by the provincial government<br>• Area with protection status<br>• % progress on the Lachine Canal project |

| SLV 2000 ACTION PLAN | ENVIRONEMENTAL INDICATORS (10-20 year horizon) | INTERMEDIATE OUTCOME INDICATORS (5-year horizon) | OUTPUT INDICATORS (PRODUCTS OR SERVICES) |
|---|---|---|---|
| | | • Status of habitat management plans that have been implemented<br>• Number of accesses created or restored | • Extent and variety of use of water level management models and tools<br>• Level of implementation of the reference framework<br>• Level of commitment of partners to the St. Lawrence monitoring network<br>• Implementation of a permanent process to ensure the sustainability of a St. Lawrence monitoring system |
| **Industrial and urban** | | • Number of pollution prevention projects carried out<br>• Number of the 14 industrial plants that completed the program | • Rate of toxics reduction per project and type of activity<br>• Level of achievement of the environmental results other than the reduction of the 18 toxic substances per project and type of activity<br>• Achievement of all results for measuring the toxicity of targeted municipal effluent<br>• Achievement of high quality results involving<br>  • results that passed quality control tests<br>  • characterization carried out in a timely manner (taking account of influencing factors)<br>  • normal operation of treatment plants<br>• CHIMIOTOX for each industrial plant targeted under Phase II in group 1<br>• Number of certificates issued compared to the number of certificates that can be issued |
| **Shipping and Boating** | | • Implementation of environmental monitoring studies for dredging projects<br>• Behavioural changes vis-à-vis the speed of commercial ships<br>• Changes in the practices of recreational boaters<br>• Level of funding committed by partners to the sustainable shipping strategy | • Stakeholders' level of knowledge on the government decision-making process regarding the management of dredging and sediments<br>• Implementation of studies on the impacts of navigation on shoreline erosion<br>• Level of involvement per type of government and non-governmental representative in the development of the sustainable shipping strategy<br>• Level of participation in reflection and public debate on the use by each type of representative for each geographical area<br>• Quality of the debate on the uses of the St. Lawrence River and projects related to navigation<br>• Number and frequency of information transfers to the target clients of the Shipping and Boating component |

| SLV 2000 ACTION PLAN | ENVIRONEMENTAL INDICATORS (10-20 year horizon) | INTERMEDIATE OUTCOME INDICATORS (5-year horizon) | OUTPUT INDICATORS (PRODUCTS OR SERVICES) |
|---|---|---|---|
| | | • Adoption of the sustainable shipping strategy tabled by the Shipping and Boating coordinating committee | • Scientific consensus and level of information of industry, the public and local communities on the application of the criteria on sediment quality |
| **Human Health** | • % of pregnant women whose level of PCB contamination is below the safety threshold in high-risk areas | • Proportion of swimmers frequenting clean beaches, that have adequate posting and are suitable for swimming | • Number of beaches used by the public at which water quality is evaluated<br>• % of municipalities that monitor water quality at public beaches in their territory<br>• % of municipalities who post adequate notices at beaches in their territory<br>• Proportion of the riverside population that swims in the St. Lawrence River<br>• Swimmers attitude and knowledge of health issues<br>• Number of new priority chemical contaminants in drinking water subject to characterization to assess potential health risks<br>• Consumer attitudes regarding tap water from the St. Lawrence River<br>• Heath care professionals' attitude towards and knowledge of health issues related to the consumption of aquatic products<br>• Proportion of riparian land owners engaging in sport fishing in the St. Lawrence River<br>• Proportion of fishermen who consume catches from the St. Lawrence River<br>• Consumers' attitude towards and knowledge of health issues related to the consumption of aquatic products<br>• Number of aquatic product consumption practices subject to human health risk characterization |

| SLV 2000 ACTION PLAN | ENVIRONEMENTAL INDICATORS (10-20 year horizon) | INTERMEDIATE OUTCOME INDICATORS (5-year horizon) | OUTPUT INDICATORS (PRODUCTS OR SERVICES) |
|---|---|---|---|
| **Communications** | | | • Number of times SLV 2000 is associated with the two governments (Canada, Quebec) compared to the total number of times it is mentioned<br>• Number of times departmental partners are mentioned in articles generated by the communications activities of SLV 2000 compared to the number of times they could be mentioned in all articles generated<br>• Number of references to the targeted strategic messages compared to the number of references in all articles generated by communications activities<br>• Number of communications products per coordinating committee posted on the Internet compared to the total number of products developed and included in their communication plan<br>• Number of articles published in «Le Fleuve» per area of activity<br>• Public and community perception of all SLV 2000 activities<br>• Level of public knowledge of the state of the St. Lawrence River<br>• Uses and changes in perception of the St. Lawrence River |

# 5. IMPLEMENTATION OF THE PERFORMANCE FRAMEWORK

## 5.1 Collection of information pertaining to performance indicators

The performance framework is implemented through the collection of information pertaining to performance indicators. The coordinating committees are responsible for updating their performance indicators in accordance with the frequency determined at the workshops and as specified in the measurement strategies. Appendix III presents the indicators by component with their updating frequency.

As a next step, the measurement strategies will be integrated into the internet based management information system of Phase III. The management information system will thus become a single-window tool that will be used by the designated representative(s) of the coordinating committees to document their performance indicators, budgets and status of results.

## 5.2 Logic model database

The information in the logic models was put into a local database available at the SLV 2000 Coordination Office. The database makes it possible to dynamically link the various elements of the logic model and to see, for example, how a change in an activity can affect the components. The current version of the database will not be integrated into the management information system, even though it is compatible with it. For now, the logic models are available as tables in the management information system (management tools section).

# 6. PHASE III EVALUATION ISSUES

The performance framework is an important tool for conducting the program review. For Phase III, a mid-term review is planned for 2000-2001 and an review of the action plan is scheduled for the final year, i.e., 2002-2003. These two exercises will be conducted jointly by the Canada and Quebec governments.

The purpose of the mid-term review is to determine what progress was been made towards achieving the planned results and to decide on the directions to take or on the need to reallocate resources to ensure optimal success of SLV 2000. It is clear that with respect to some results for which progress can only be seen in the long term, the mid-term review will occur at too early a stage to evaluate trends in respect of the achievement of targets. However, for shorter-term results, it will be possible to obtain relevant overviews that can be used to more effectively focus or verify the effectiveness of certain aspects of SLV 2000.

The performance framework is designed specifically for the review of Phase III. It will allow managers to conduct the preliminary analysis required for this exercise. During the review, the evaluators will ask managers questions on three specific aspects of Phase III, i.e., relevance, effectiveness and efficiency (5) (7). Apart from the performance framework, the evaluators will also use data from the management information system, interviews with the people actively involved in SLV 2000 and various reports.

The relevance of SLV 2000 relates to its justification in terms of its concept, development, implementation and partnerships (5) (7). Are the results to be achieved true priorities for the strategic objectives of «protection of the health of the ecosystem, protection of human health and involvement of riverside communities to improve access and to restore uses of the St. Lawrence River» (3) (4)? How do the activities implemented contribute to achieving the results?

The effectiveness of SLV 2000 relates to the achievement of the results, the impacts on the St. Lawrence ecosystem and partnerships. The principal questions asked are: Were the targeted results achieved? Was progress made towards the main objectives of SLV 2000? Are partners really involved in the achievement of the results? Is SLV 2000 contributing to improving the St. Lawrence River? The development of new skills and expertise and learning from the mistakes made in Phases I and II are also reflections of effectiveness. The satisfaction of the clients targeted by the outputs of Phase III, including those related to communication and dissemination of scientific knowledge on the St. Lawrence, is an integral part of the evaluation of the effectiveness of SLV 2000. The integration of the information obtained on the ecosystem as well as the use of the SLV 2000 outputs in decision-making concerning the St. Lawrence ecosystem are clear evidence of the effectiveness of the program (5) (7).

The efficiency of SLV 2000 relates primarily to the costs of achieving the results. Are the costs considered reasonable? The question of efficiency also relates to the choices made by managers when allocating resources, to different results or components. Are the key priorities allocated sufficient resources relative to the less important aspects of the action plan (5) (7)?

In the review that will be carried out at the end of Phase III, the managers will be asked difficult questions. However, the challenge is worthwhile. The conclusions and recommendations of the review will be useful in improving the initiatives to be taken regarding the St. Lawrence as well as with respect to partnerships. This exercise is critical for the evaluation of the impacts and outcomes of the activities of SLV 2000 on the St. Lawrence and, if required, to plan of the next Phase.

## 7. RECOMMENDATIONS

The development of the performance framework is first and foremost a job for experts. In developing a product as far-reaching in scope as the performance framework, it is critical to ensure the availability of human resources throughout the development process. Because both evaluators left in April 1999, the version of the performance framework presented to the Coordination Office was incomplete in several respects and had not been validated by all the coordinating committees. This resulted in a delay of several months in the development of the performance framework.

### 7.1 Indicators

Because it must reflect changes in planning that may arise during the course of the action plan, the performance framework of Phase III is a dynamic, evolving tool. At this point, the performance framework is not perfect. The performance indicators do not cover all aspects covered by SLV 2000: some results have no indicators, while others have no indicators of intermediate outcomes (progress towards targets), which would have to be developed. There

are few environmental indicators (longer term). Linkages should be established with the team working on the state of St. Lawrence ecosystem monitoring, who will follow trends in 19 environmental indicators. In addition, general indicators for Phase III have yet to be developed.

The level of indicators put forward by the coordinating committees is unequal. It is important that the coordinating committees examine this question and look to see how they can document the impact of their work on the achievement of the Agreement results, on the ecosystem, on human health and on community involvement in the absence of indicators in the three categories presented in Table 7.

### 7.2 Recommendations of the Advisory Committee

The Advisory Committee made a series of recommendations to AMC in its working paper on the performance framework (10), many of which were taken into account in preparing this document. The committee recommended, among other things, the inclusion of general indicators for Phase III for evaluating integration, coordination, cooperation and management. It also believes that the communication and dissemination of scientific information on the St. Lawrence ecosystem to decision-makers and the public should be a major priority in Phase III. This element will not be measured by the Communications coordinating committee or by any of the other coordinating committees with performance indicators, but is an integral part of the evaluation of the effectiveness of SLV 2000, as specified in section 6. The satisfaction of the various target clients of the SLV 2000 action plan, namely the public, the ZIP committees and all decision-makers involved in the St. Lawrence, must be evaluated, despite the fact that no indicator currently appears in the performance framework.

### 7.3 Implementation

The coordinating committees must continue collecting information for updating the performance indicators at the established frequency. The information from the performance framework must be used as often as possible in communications on the action plan, whether it be simply for presenting work under way or for planning purposes, the midyear review or the year-end review. The performance framework should be used regularly in meetings of SLV 2000 managers to discuss the impact of the work being carried out under Phase III.

## 8. CONCLUSION

The performance framework for Phase III is a major, innovative effort, as reflected by the number of people who took part in the workshops (Appendix I) and the volume of information flowing from them, which will be presented in Volume II (9). It is the first exercise of its kind to be carried out since the first Canada - Quebec action plan on the St. Lawrence in 1988. It makes it possible to establish linkages between the mission and three main objectives of Phase III and its results, activities, outputs, clients and outcomes. The performance framework was developed jointly with the participation of all the coordinating committees, which showed considerable interest in this new management tool.

The performance framework is a major decision-making tool for planning and the final review of Phase III and, eventually, for the strategic planning of the results of Phase IV, if it's applicable. It informs each coordinating committee of its situation relative to required performance and of

the aspects on which it will be evaluated. However, the analysis will be backed up by additional information from other sources, such as the management information system, interviews with the stakeholders of Phase III and published reports in order to provide a clearer picture of the performance of government with respect to the St. Lawrence ecosystem.

The thinking required to develop the performance framework, i.e., to establish linkages between the various elements of SLV 2000, has been a very fruitful exercise for everyone involved. It has enabled the coordinating committees and managers to examine and summarize the work done in Phase III and to communicate their work from the perspective of the needs of and usefulness to clients as well as its environmental benefits. The same type of thinking should be maintained for any new activity added by the planning process and must also be very apparent in SLV2000 communications.

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**Appendix I : List of participants for the fourteen workshops to develop the performance framework**

| Committee | Organization |
|---|---|
| **Community Involvement** | |
| **Joint community action** | |
| Marie-Josée Auclair | Environment Canada |
| Yolaine St-Jacques | Environment Canada |
| Claire Lachance | ZIP Haut Saint-Laurent |
| Thanh Thao Pham | Environment Canada |
| Marc Hudon | Stratégies Saint-Laurent |
| Yves Lefebvre | Ministère de l'Environnement Québec |
| Guy Larochelle | Stratégies Saint-Laurent |
| Jean-François Bibeault | Environment Canada |
| Claire Laliberté | Centre de santé publique de Québec |
| **Scientific and technical support** | |
| Marie-Josée Auclair | Environment Canada |
| Yolaine St-Jacques | Environment Canada |
| Thanh Thao Pham | Environment Canada |
| Jean-François Bibeault | Environment Canada |
| **Support for community action** | |
| Yves Lefebvre | Ministère de l'Environnement Québec |
| Daniel Robitaille | Environment Canada |
| **Dissemination of scientific knowledge** | |
| Michel Provencher | Environment Canada |
| Marie-Josée Auclair | Environment Canada |
| Yolaine St-Jacques | Environment Canada |
| Thérèse Baribeau | Environment Canada |
| Michelle Sincennes | Environment Canada |
| Jean-François Bibeault | Environment Canada |
| **Agriculture** | |
| Denis Sanfaçon | Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec |
| Raymond-Marie Duchesne | Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec |
| Alain Verreault | Ministère de l'Environnement Québec |
| Marcel Gaucher | Ministère de l'Environnement Québec |

| Committee | Organization |
|---|---|
| **Biodiversity** | |
| **Habitats** | |
| Luc Foisy | Canadian Heritage |
| Gleason Thibeault | Ministère de l'Environnement du Québec |
| Raymond Cournoyer | Société de la Faune et des Parcs du Québec |
| Yvon Mercier | Environment Canada |
| Normand Traversy | Société de la Faune et des Parcs du Québec |
| **Management of Water Levels** | |
| Christiane Hudon | Environment Canada |
| Richard Laurence | Environment Canada |
| Gilles Harvey | Société de la Faune et des Parcs du Québec |
| Marc Mingelbier | Société de la Faune et des Parcs du Québec |
| **Species** | |
| Jacques Prescott | Ministère de l'Environnement du Québec |
| Gildo Lavoie | Ministère de l'Environnement du Québec |
| Michel Huot | Société de la Faune et des Parcs du Québec |
| Raymond Lemieux | Environment Canada |
| René Lesage | Société de la Faune et des Parcs du Québec |
| **Ecosystem Monitoring** | |
| Yves Grimard | Ministère de l'Environnement du Québec |
| Guy Demers | Ministère de l'Environnement du Québec |
| Thanh Thao Pham | Environment Canada |
| **Industrial / Urban** | |
| **Industrial** | |
| Jacynthe D'amours | Ministère de l'Environnement du Québec |
| Claire Marier | Environment Canada |
| Francine Perron | Environment Canada |
| Claudette Bégin | Ministère de l'Environnement du Québec |
| Alain Bernier | Environment Canada |
| Réjean de Ladurantaye | Environment Canada |
| Jean Tremblay | Environment Canada |
| Anne-Marie Coutu | Environment Canada |
| Fadila Matejek | Ministère de l'Environnement du Québec |
| **Urban** | |
| Jacynthe D'amours | Ministère de l'Environnement du Québec |
| Alain Bernier | Environment Canada |
| Marc Villeneuve | Environment Canada |
| Richard Dalcourt | Environment Canada |
| Robert J. Tétreault | Ministère de l'Environnement du Québec |

| Committee | Organization |
|---|---|
| **Shipping and Boating** | |
| Pierre Rouleau | Fisheries and Oceans Canada |
| Gervais Bouchard | Fisheries and Oceans Canada |
| Laurence Mazaudier | Fisheries and Oceans Canada |
| Serge Gonthier | Ministère de l'Environnement du Québec |
| Jérôme Faivre | Ministère des Transports du Québec |
| Marc Hudon | Stratégies Saint-Laurent |
| Francine Richard | Fisheries and Oceans Canada |
| Vincent Jarry | Environment Canada |
| **Health** | |
| Michèle Bélanger | Ministère de la Santé et des Services sociaux |
| Richard Larue | Health Canada |
| Jacques Grondin | Centre de santé publique de Québec |
| Dave Berryman | Ministère de l'Environnement du Québec |
| Claire Laliberté | Centre de santé publique de Québec |
| **Communications** | |
| Raymonde Goupil | Ministère de l'Environnement du Québec |
| Suzanne Bourget | Environment Canada |
| Marc Hudon | Stratégies Saint-Laurent |
| Nathalie Howson | Health Canada |
| Clément Dugas | Environment Canada |
| **Agreement Administration** | |
| Marc Crispin | Environment Canada |
| Josée De Guise | Environment Canada |
| François Duchesneau | Société de la Faune et des Parcs du Québec |

## Appendix II : Dates when the fourteen workshops to develop the performance framework were held

| Committees | Meeting with co-chairs of coordinating committees | Workshop |
|---|---|---|
| **Community Involvement** | October, 19 1998 | |
| • Joint community action | | December, 1-2 1998<br>January, 14 1999 |
| • Support for community action | | December, 15 1998 |
| • Scientific and technical support | | January, 13 1999 |
| • Dissemination of scientific knowledge | | January, 13 1999 |
| **Agriculture** | December 22, 1998 | February, 4-5 1999 |
| **Biodiversity** | January 11 and 26, 1999 | |
| • Habitats | | March, 8-9 1999 |
| • Species | | February, 15-16 1999 |
| • Management of Water Levels | | March, 17-18 1999 |
| • Ecosystem Monitoring | | March, 29 1999 |
| **Industrial et Urban** | January 26, 1999 | |
| • Industrial | | March, 25-26 1999 |
| • Urban | | March, 12 1999 |
| **Shipping and Boating** | December 21, 1998 | February, 23-24 1999 |
| **Health** | December 11, 1998 | January, 6- 7- 27 1999 |
| **Communications** | January 19, 1999 | February, 18-19 1999 |

## Appendix III : Frequency for updating the performance framework indicators

### COMMUNITY INVOLVEMENT

| INDICATORS | YEAR | | | | |
|---|---|---|---|---|---|
| | 1998-1999 | 1999-2000 | 2000-2001 | 2001-2002 | 2002-2003 |
| **JOINT COMMUNITY ACTION** | | | | | |
| 1. Number of partners per sector involved in the implementation of ERAP projects<br>2. Number of partners involved in activities other than the implementation of ERAP projects<br>3. Number of hectares of protected, restored, conserved or enhanced habitat<br>4. Number of ERAP projects completed or under way in the following categories: protection, conservation, restoration and enhancement of habitats and biological resources, recreation/tourism and protection of human health<br>5. Number of plants planted<br>6. Number of kilometres of shoreline restored (cleaned up, stabilized, renaturalized)<br>7. Amount of waste collected<br>8. Number of hours of volunteer work provided by local partners to the activities of ZIP committees<br>9. Resources (financial, human and physical) invested by the other local partners to implement ERAPs and other activities<br>10. Number of conferences, consultations and information and awareness activities generated by the ZIP committees | | | 1 | | 1 |
| 11. Number of harmonization activities (meetings of Stratégies Saint-Laurent and ZIP boards, development of management tools, etc.) | Frequency to be determined | | | | |
| **SUPPORT FOR COMMUNITY ACTION** | | | | | |
| 12. % of the budget of the Community Interaction Program (CIP) allocated to ERAP projects<br>13. Number of proposals submitted to CIP addressing each component of SLV 2000<br>14. Number of community groups participating in CIP<br>15. Number of person/days of volunteer work allocated to CIP | | | | | |

| INDICATORS | YEAR | | | | |
|---|---|---|---|---|---|
| | 1998-1999 | 1999-2000 | 2000-2001 | 2001-2002 | 2002-2003 |
| 16. Number of projects per ZIP (geographical aspect)<br>17. Number of CIP projects in the following categories: physical works, awareness, acquisition and stewardship, enhancement and accessibility, studies (generation of knowledge, planning, feasibility)<br>18. % of funding per type of partner<br>19. Distribution (%) per type of partner involved in CIP<br>20. Multiplier effect of CIP: investments ($) by type of partner; volunteer work in $ and person/days; loans, donations and services in $ | 2 (February and October) | 2 | 2 | 2 | 2 |
| 21. Number of kilometres of shoreline restored (cleaned up, stabilized, renaturalized)<br>22. Amount of waste collected<br>23. Number of plants planted<br>24. Number of accesses to the St. Lawrence (new and improved)<br>25. Hectares of restored, conserved or protected habitat | | | 1 | | 1 |
| **SCIENTIFIC AND TECHNICAL SUPPORT** | | | | | |
| 26. Number of government partners participating in SLV 2000 (Diversity) involved with SSL and ZIP committees<br>27. Resources allocated by each government partner participating in SLV 2000 | | | 1 | | 1 |
| 28. Level of satisfaction of SSL and ZIP committees as a function of the offer made by government partners<br>29. Client satisfaction, i.e., SSL and ZIP committees, concerning the transfer of information and expertise by the government partners participating in SLV 2000 | | | | | 1 |
| 30. % of ERAP projects which are technically eligible for funding under CIP<br>31. Total number of ERAP projects receiving funding under CIP<br>32. Total number of ERAP projects that have been implemented and that have received scientific and/or technical support | 1 | 1 | 1 | 1 | 1 |
| **DISSEMINATION OF SCIENTIFIC KNOWLEDGE** | | | | | |
| 33. Number of people active in the Biosphere's Ecowatch Network in the St. Lawrence basin (participants)<br>34. Number of requests to participate in the Biosphere's Ecowatch Network in the St. Lawrence basin (participants)<br>35. Number of projects per theme | 2 | 2 | 2 | 2 | 2 |

| INDICATORS | YEAR | | | | |
|---|---|---|---|---|---|
| | 1998-1999 | 1999-2000 | 2000-2001 | 2001-2002 | 2002-2003 |
| 36. Number of hours spent on the Biosphere's Ecowatch Network projects by the participants, including volunteer work | | | | | |
| 37. % retention of active members | | | | | |

## AGRICULTURE

| INDICATORS | YEAR | | | | |
|---|---|---|---|---|---|
| | 1998-1999 | 1999-2000 | 2000-2001 | 2001-2002 | 2002-2003 |
| 1. Amount of pesticides in kg of active ingredients per hectare used in targeted crops<br>2. Area in hectares under integrated control measures relative to the total area of targeted crops | | 1 | 1 | | 1 |
| 3. Frequency of exceedance of criteria for the protection of aquatic life (for surface water)<br>4. Frequency of pesticide detection (in groundwater)<br>5. Frequency of exceedance of drinking water criteria | Will vary with exceedance of criteria | | | | |
| 6. Number of producers who are members of agro-environmental clubs for the Boyer River<br>7. Number of watertight storage structures (livestock manure)<br>8. Number of farms with agro-environmental fertilization plans<br>9. Frequency of exceedance of the criteria for the protection of aquatic life (for surface water)<br>10. Number of farms in compliance with the provisions respecting watertight storage of livestock manure<br>11. Number of inspection visits | 1 | 1 | 1 | 1 | 1 |

## BIODIVERSITY

| INDICATORS | YEAR | | | | |
|---|---|---|---|---|---|
| | 1998-1999 | 1999-2000 | 2000-2001 | 2001-2002 | 2002-2003 |
| **SPECIES** | | | | | |
| 1. Number of species whose populations have stabilized or are on the rise<br>2. Number of species whose occupied sites have been maintained or increased | | | 1 | | 1 |
| 3. Number of new species recovery plans initiated or completed<br>4. Number of species designated by the Quebec government | 1 | 1 | 1 | 1 | 1 |
| **HABITATS** | | | | | |
| 5. Number of hectares protected | 2 | 2 | 2 | 2 | 2 |
| 6. Area with protection status (included in the 120,000 hectares) | | | | | 1 |
| 7. Status of habitat management plans that have been implemented<br>8. % progress on the Lachine Canal project<br>9. Number of accesses to the St. Lawrence River created or restored | 1 | 1 | 1 | 1 | 1 |
| **MANAGEMENT OF WATER LEVELS** | | | | | |
| 10. Extent and variety of use of water level management models and tools | | | | | 1 |
| **ECOSYSTEM MONITORING** | | | | | |
| 11. Level of implementation of the reference framework (operationalization of existing indicators and evaluation of the feasibility of the others)<br>12. Level of commitment of partners to the St. Lawrence monitoring network | | | 1 | | 1 |
| 13. Implementation of a permanent process to ensure the sustainability of a St. Lawrence monitoring system | | | | | 1 |

## INDUSTRIAL / URBAN

| INDICATORS | YEAR | | | | |
|---|---|---|---|---|---|
| | 1998-1999 | 1999-2000 | 2000-2001 | 2001-2002 | 2002-2003 |
| 1. Rate of toxics reduction per project and type of activity | Variable, at the end of each project | | | | |
| 2. Number of pollution prevention projects carried out | | | 2 | 2 | 2 |
| 3. Level of achievement of the environmental results other than the reduction of the 18 toxic substances (EMS, technical) per project and type of activity | 1 | 1 | 1 | 1 | 1 |
| 4. Achievement of all results for measuring the toxicity of targeted municipal effluent | 2 | 2 | 2 | 2 | 2 |
| 5. Achievement of high quality results involving<br>· results that passed quality control tests<br>· characterization carried out in a timely manner (taking account of influencing factors)<br>· normal operation of treatment plants | On going | | | | |
| 6. Number of the 14 industrial plants that completed the program | | | | | 1 |
| 7. CHIMIOTOX for each industrial plant targeted under Phase II in group 1 | Variable, at the end of each project | | | | |
| 8. Number of certificates issued compared to the number of certificates that can be issued | | 1 | | | |

## SHIPPING AND BOATING

| INDICATORS | YEAR | | | | |
|---|---|---|---|---|---|
| | 1998-1999 | 1999-2000 | 2000-2001 | 2001-2002 | 2002-2003 |
| 1. Level of involvement per type of government and non-governmental representative in the development of the sustainable shipping strategy<br>2. Level of funding committed by partners to the sustainable shipping strategy<br>3. Level of participation in reflection and public debate on the use by each type of representative for each geographical area<br>4. Number and frequency of information transfers to the target clients of the Shipping and Boating component | 1 | 1 | 1 | 1 | 1 |
| 5. Stakeholders' level of knowledge on the government decision-making process regarding the management of dredging and sediments<br>6. Quality of the debate on the uses of the St. Lawrence River and projects related to navigation<br>7. Scientific consensus and level of information of industry, the public and local communities on the application of the criteria on sediment quality | | | 1 | 1 | |
| 8. Implementation of studies on the impacts of navigation on shoreline erosion<br>9. Behavioural changes vis-à-vis the speed of commercial ships<br>10. Changes in the practices of recreational boaters | | | | 1 | |
| 11. Implementation of environmental monitoring studies for dredging projects<br>12. Adoption of the sustainable shipping strategy tabled by the Shipping and Boating coordinating committee | | | | | 1 |

## HEALTH

| INDICATORS | YEAR | | | | |
|---|---|---|---|---|---|
| | 1998-1999 | 1999-2000 | 2000-2001 | 2001-2002 | 2002-2003 |
| 1. Number of beaches used by the public at which water quality is evaluated<br>2. % of municipalities that monitor water quality at public beaches in their territory<br>3. % of municipalities who post adequate notices at beaches in their territory | 1 | 1 | 1 | 1 | 1 |
| 4. Number of chemical compounds subject to effect measurements | 2 | 2 | 2 | 2 | 2 |
| 5. Proportion of swimmers frequenting clean beaches, that have adequate posting and are suitable for swimming<br>6. Proportion of the riverside population that swims in the St. Lawrence River | | | 1 | | 1 |
| 7. Swimmers attitude and knowledge of health issues<br>8. Number of new priority chemical contaminants in drinking water subject to characterization to assess potential health risks<br>9. Consumer attitudes regarding tap water from the St. Lawrence River | | | | | 1 |
| 10. % of pregnant women whose level of PCB contamination is below the safety threshold in high-risk areas | On going | | | | |
| 11. Heath care professionals' attitude towards and knowledge of health issues related to the consumption of aquatic products | Ad Hoc activities | | | | |
| 12. Proportion of riparian land owners engaging in sport fishing in the St. Lawrence River<br>13. Proportion of fishermen who consume catches from the St. Lawrence River<br>14. Consumers' attitude towards and knowledge of health issues related to the consumption of aquatic products<br>15. Number of aquatic product consumption practices subject to human health risk characterization<br>16. Number of aquatic products used for medicinal purposes that have been documented | | | | | 1 |

## COMMUNICATIONS

| INDICATORS | YEAR | | | | |
|---|---|---|---|---|---|
| | 1998-1999 | 1999-2000 | 2000-2001 | 2001-2002 | 2002-2003 |
| 1. Number of times SLV 2000 is associated with the two governments (Canada, Quebec) compared to the total number of times it is mentioned<br>2. Number of times departmental partners are mentioned in articles generated by the communications activities of SLV 2000 compared to the number of times they could be mentioned in all articles generated<br>3. Number of references to the targeted strategic messages compared to the number of references in all articles generated by communications activities<br>4. Number of communications products per coordinating committee posted on the Internet compared to the total number of products developed and included in their communication plan<br>5. Number of articles published in «Le Fleuve» per area of activity | 1 | 1 | 1 | 1 | 1 |
| 6. Public and community perception of all SLV 2000 activities<br>7. Level of public knowledge of the state of the St. Lawrence River<br>8. Uses and changes in perception of the St. Lawrence River | | | | 1 | |